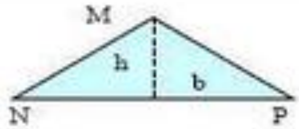
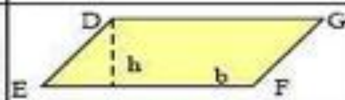
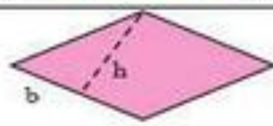
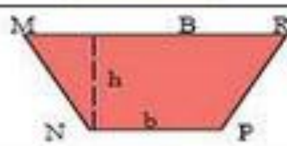
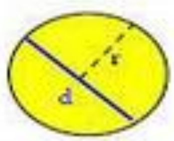
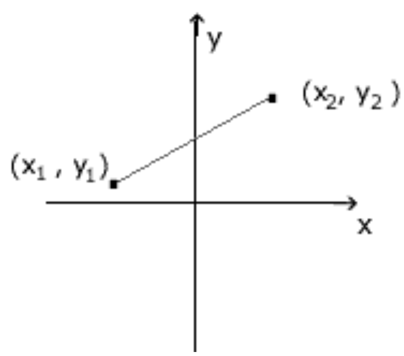
Accelerated Geometry **Formula Sheet**

NAME	FIGURE	AREA	PERIMETER CIRCUMFERENCE
TRIANGLE		$A = \frac{b \times h}{2}$	$P = MN + NP + PM$
PARALLELOGRAM		$A = b \times h$	$P = DE + EF + FG + GD$
RHOMBUS		$A = b \times h$	$P = b+b+b+b$ $P = 4b$
RECTANGLE		$A = L \times w$	$P = L+w+L+w$ $P = 2L+2w$
SQUARE		$A = l^2$	$P = l+l+l+l$ $P = 4l$
TRAPEZOID		$A = \frac{(B+b) \times h}{2}$	$P = MN + NP + PR + RM$
CIRCLE		$A = \pi r^2$	$C = 2\pi r = \pi d$

$$\text{slope} = \frac{y_2 - y_1}{x_2 - x_1}$$

$$d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$



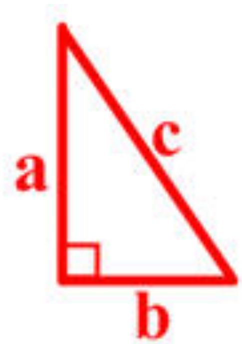
Midpoint: $\left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2}\right)$

Accelerated Geometry **Formula Sheet**

<u>Pythagorean Theorem</u>:

$$c^2 = a^2 + b^2$$

$$(\text{hypotenuse})^2 = (\text{leg})^2 + (\text{leg})^2$$



$$a^2 + b^2 = c^2$$

Converse of the Pythagorean Theorem

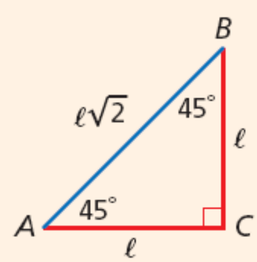
if $c^2 > a^2 + b^2$, then the triangle would be obtuse

if $c^2 < a^2 + b^2$, then the triangle would be acute

Theorem 5-8-1 45°-45°-90° Triangle Theorem

In a 45°-45°-90° triangle, both legs are congruent, and the length of the hypotenuse is the length of a leg times $\sqrt{2}$.

$AC = BC = \ell$ $AB = \ell\sqrt{2}$



Theorem 5-8-2 30°-60°-90° Triangle Theorem

In a 30°-60°-90° triangle, the length of the hypotenuse is is 2 times the length of the shorter leg, and the length of the longer leg is the length of the shorter leg times $\sqrt{3}$.

$AC = s$ $AB = 2s$ $BC = s\sqrt{3}$